the requirements of §113.35–3(d) of this chapter.

PART 130—VESSEL CONTROL, AND MISCELLANEOUS EQUIPMENT AND SYSTEMS

Subpart A—Vessel Control

Subpart B—Miscellaneous Equipment and Systems

Subpart C—Navigational Equipment

Subpart D—Automation of Unattended Machinery Spaces

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Subpart A—Vessel Control

§130.110 Internal communications on OSVs of less than 100 gross tons.

Each vessel of less than 100 gross tons equipped with an independent auxiliary means of steering, as required by §130.130(b) of this subpart, must have a fixed means of communication between the pilothouse and the place where the auxiliary means of steering is controlled.

§130.120 Propulsion control.

(a) Each vessel must have—

(1) A propulsion-control system operable from the pilothouse; and

(2) A means at each propulsion engine of readily disabling the propulsion-control system to permit local operation.

(b) Each propulsion-control system operable from the pilothouse must enable—

(1) Control of the speed of each propulsion engine;

(2) Control of the direction of propeller-shaft rotation;

(3) Control of propeller pitch, if a controllable-pitch propeller is fitted; and

(4) Shutdown of each propulsion engine.

(c) The propulsion-control system operable from the pilothouse may constitute the remote stopping-system required by §129.540 of this subchapter.

(d) Each propulsion-control system, including one operable from the pilothouse, must be designed so that no one complete or partial failure of an easily replaceable component of the system allows the propulsion engine to overspeed or the pitch of the propeller to increase.

§130.130 Steering on OSVs of less than 100 gross tons.

(a) Each OSV of less than 100 gross tons must have a steering system that complies with—

(1) Section 130.140 of this subpart; or

(2) This section.

(b) Except as provided by paragraph (i) of this section, each vessel must have a main and an independent auxiliary means of steering.

(c) The main means of steering (main steering gear) must be—

(1) Of adequate strength for, and capable of, steering the OSV at each service speed;

(2) Designed to operate at maximum astern speed without being damaged; and

(3) Capable of moving the rudder from 35 degrees on one side to 30 degrees on the other side in no more than

28 seconds with the vessel moving ahead at maximum service speed.

(d) Control of the main steering gear must be available from the pilothouse, including control of any necessary ancillary device (motor, pump, valve, or the like). If a power-driven main steering gear is used, a pilot light must be installed in the pilothouse to indicate operation of the power units.

(e) The auxiliary means of steering (auxiliary steering gear) must be—

(1) Of adequate strength for steering the OSV at navigable speed;

(2) Capable of steering the vessel at navigable speed; and

(3) Controlled from a place that—

(i) Can communicate with the pilothouse; or

(ii) Enables the master to safely maneuver the vessel.

(f) The steering gear must be designed so that transfer from the main steering gear or its control to the auxiliary steering gear or its control can be achieved rapidly. Any tools or equipment necessary for transfer must be readily available. Instructions for transfer must be posted.

(g) Each vessel must have instantaneous protection against short circuit for electrical-power circuits and control circuits, the protection sized and located to comply with §§58.25–55 (d) and (e) of this chapter.

(h) A rudder-angle indicator independent of the control of the main steering gear must be installed at the steering-control station in the pilothouse.

(i) No auxiliary steering gear need be installed if—

(1) The main steering gear, including power systems, is installed in duplicate; or

(2) Multiple-screw propulsion—with independent control of propulsion from the pilothouse for each screw and with a means to restrain and center the rudder—is installed, and if that control is capable of steering the OSV.

(j) Each vessel with duplicate (parallel but cross-connected) power systems for the main steering gear by way of compliance with paragraph (i)(1) of this section may use one of the systems for other purposes if—

(1) Control of the subordinate parallel system is located at the steering-control station in the pilothouse;

(2) Full power is available to the main steering gear when the subordinate parallel system is not in operation;

(3) The subordinate parallel system can be isolated from the means of steering, and instructions on procedures for isolating it are posted; and

(4) The subordinate parallel system is materially equivalent to the steering system.

§ 130.140 Steering on OSVs of 100 or more gross tons.

(a) Each OSV of 100 or more gross tons must have a means of steering that meets the—

(1) Applicable requirements of subchapters F and J of this chapter; or

(2) Requirements for a hydraulic-helm steering-system in paragraph (b) of this section.

(b) Each hydraulic-helm steering-system must have the following:

(1) A main steering gear of adequate strength for, and capable of, steering the vessel at every service speed without being damaged at maximum astern speed.

(2) A hydraulic system with a maximum allowable working pressure of not more than 12,411 kPa (1,800 psi), dedicated to steering.

(3) Piping materials that comply with subchapter F of this chapter, and piping thickness of at least schedule 80.

(4) Each fore-and-aft run of piping located as far inboard as practicable.

(5) Rudder stops.

(6) Either—

(i) Two steering pumps in accordance with §130.130(c)(3) of this part; or

(ii) A single hydraulic sump of the “cascading overflow” type with a centerline bulkhead open only at the top, if each half has enough capacity to operate the system.

(7) Control of the main steering gear from the pilothouse, including—

(i) Control from the helm;

(ii) Control of any necessary ancillary device (motor, pump, valve, or the like); and

(iii) Adequate visibility when going astern.

(8) Multiple-screw propulsion with independent control of propulsion from the pilothouse, complying with § 130.120 of this part and being capable of steering the vessel.

(9) Dual hydraulic cylinders arranged so that either cylinder can be readily isolated, permitting the other cylinder to remain in service and move each rudder.

(10) The steering alarms and indicators required by § 58.25–25 of this chapter, located in the pilothouse.

(11) Instantaneous protection against short circuit for electrical power, and control circuits sized and located as required by §§ 58.25–55 (d) and (e) of this chapter.

(12) A rudder-angle indicator, at the steering-control station in the pilothouse, that is independent of the control of the main steering gear.

(13) Means to locally start and stop the steering pumps.

(14) Means to isolate any auxiliary means of steering so as not to impair the reliability and availability of the control required by paragraph (b)(7) of this section.

(15) Manual capability to center and steady the rudder if the vessel loses normal steering power.

(c) For compliance with paragraph (b) of this section, a common piping system for pumps, helm, and cylinders is acceptable.

Subpart B—Miscellaneous Equipment and Systems

§ 130.210 Radiotelegraph and radiotelephone.

Each vessel must comply with 47 CFR part 80 as applicable.

§ 130.220 Design of equipment for cooking and heating.

(a) Doors on each cooking appliance must be provided with heavy-duty hinges and locking-devices to prevent accidental opening in heavy weather.

(b) Each cooking appliance must be installed so as to prevent its movement in heavy weather.

(c) Each grill or similar cooking appliance must have means to collect grease or fat and to prevent its spillage onto wiring or the deck.

(d) On each cooking appliance, grab rails must be installed when determined by the cognizant OCMI to be necessary for safety.

(e) On each cooking appliance, sea rails, with suitable barriers to prevent accidental movement of cooking pots, must be installed.

(f) Each heater must be constructed and installed so as to prevent the hanging from it of items such as towels and clothing.

§ 130.230 Protection from refrigerants.

(a) For each refrigeration system that exceeds 0.6 cubic meters (20 cubic feet) of storage capacity if using ammonia or other hazardous gas, or exceeds 28.3 cubic meters (1,000 cubic feet) of storage capacity if using a fluorocarbon, as a refrigerant, there must be available one pressure-demand, open-circuit, self-contained breathing apparatus, approved by the National Institute for Occupational Safety and Health (NIOSH) and having at a minimum a 30-minute air supply, and a full facepiece.

(b) Each self-contained breathing apparatus must be stowed convenient to, but outside, the space containing the refrigeration equipment.

(c) A complete recharge in the form of a spare charge must be carried for each self-contained breathing apparatus. The spare charge must be stowed with the equipment it is to reactivate.

(d) The self-contained breathing apparatus in a fireman's outfit, if fitted, complies with this section.

§ 130.240 Anchors and chains for OSVs of 100 or more gross tons.

(a) Each OSV of 100 or more gross tons must be fitted with anchors and chains meeting the applicable standards set by the ABS for classed vessels, including equipment, except as permitted by paragraphs (b) and (c) of this section.

(b) As well as the standards incorporated by paragraph (a) of this section, each vessel of under 61 meters (200 feet) in length and with an equipment number from the ABS of less than 150 may be equipped with either—

(1) One anchor of the tabular weight and one-half the tabulated length of

anchor chain listed in the applicable standard; or

(2) Two anchors of one-half the tabular weight with the total length of anchor chain listed in the applicable standard, if both anchors are ready for use at any time and if the windlass is capable of heaving in either anchor.

(c) Standards of classification societies other than the ABS may be used, upon approval of the Commandant.

§ 130.250 Mooring and towing equipment for OSVs of less than 100 gross tons.

Each OSV of less than 100 gross tons must be fitted with mooring and towing equipment meeting the applicable requirements for small passenger vessels in §184.300 of this chapter.

Subpart C—Navigational Equipment

§ 130.310 Radar.

Each vessel of 100 or more gross tons must be fitted with a general marine radar in the pilothouse.

§ 130.320 Electronic position-fixing device.

Each vessel must be equipped with an electronic position-fixing device satisfactory for the area in which the vessel operates.

§ 130.330 Charts and nautical publications.

(a) Except as provided by paragraph (b) or (c) of this section, as appropriate for the intended voyage, each vessel must carry adequate and up-to-date—

(1) Charts of large enough scale to make safe navigation possible;

(2) U.S. Coast Pilot or similar publication;

(3) Coast Guard Light List;

(4) Tide Tables published by the National Ocean Service;

(5) Local Notice or Notices to Mariners; and

(6) Current Tables published by the National Ocean Service, or a river-current publication issued by the U.S. Army Corps of Engineers or by a river authority, or both.

(b) Any vessel may carry, instead of the complete publications listed in paragraph (a) of this section, extracts from them for areas it will transit.

(c) When operating in foreign waters, a vessel may carry an appropriate foreign equivalent of any item required by paragraph (a) of this section.

§ 130.340 Compass.

Each vessel must be fitted with a compass suitable for the intended service of the vessel. Except aboard a vessel limited to daytime operation, the compass must be illuminated.

Subpart D—Automation of Unattended Machinery Spaces

§ 130.400 Applicability.

This subpart applies to each vessel of 100 or more gross tons where automated systems either replace specific personnel in the control and observation of the propulsion system and machinery spaces or reduce the level of crew associated with the vessel's engine department.

§ 130.410 General.

(a) Arrangements must be such that under any operating condition, including maneuvering, the safety of the vessel is equivalent to that of the same vessel with the machinery spaces fully tended and under direct manual supervision.

(b) Acceptance by the Coast Guard of automated systems to replace specific crew members or to reduce overall requirements for crew members depends upon the—

(1) Capabilities of the automated system;

(2) Combination of crew members, equipment, and systems necessary to ensure the safety of the vessel, personnel, and environment in each operating condition, including maneuvering; and

(3) Ability of the crew members to perform each operational evolution, including to cope with emergencies such as fire and failure of control or monitoring systems.

§ 130.420 Controls.

Each piece of machinery under automatic control must have an alternative manual means of control.

§ 130.430 Pilothouse control.

Each OSV must have, at the pilothouse, controls to start a fire pump, charge the fire main, and monitor the pressure in the fire main.

§ 130.440 Communications system.

(a) Each OSV must have a communications system to immediately summon a crew member to the machinery space wherever one of the alarms required by § 130.460 of this subpart is activated.

(b) The communications system must be either—

(1) An alarm that—

(i) Is dedicated for this purpose;

(ii) Sounds in the crew accommodations and the normally manned spaces; and

(iii) Is operable from the pilothouse; or

(2) A telephone operated from the pilothouse that reaches the master's stateroom, engineer's stateroom, engine room, and crew accommodations that either—

(i) Is a sound-powered telephone; or

(ii) Gets its power from the emergency switchboard or from an independent battery continuously charged by its own charger.

§ 130.450 Machinery alarms.

(a) Each alarm required by § 130.460 of this subpart must be of the self-monitoring type that will both show visibly and sound audibly upon an opening or break in the sensing circuit.

(b) The visible alarm must show until it is manually acknowledged and the condition is corrected.

(c) The audible alarm must sound until it is manually silenced.

(d) No silenced alarm may prevent any other audible alarm from sounding.

(e) Each OSV must be provided with means for testing each visible and audible alarm.

(f) Each OSV must provide battery power for the alarm required by § 130.460(a)(8) of this subpart.

§ 130.460 Placement of machinery alarms.

(a) Visible and audible alarms must be installed at the pilothouse to indicate the following:

(1) Loss of power for propulsion control.

(2) Loss of power to the steering motor or for control of the main steering gear.

(3) Engine-room fire.

(4) High bilge-level.

(5) Low lube-oil pressure for each main propulsion engine and each prime mover of a generator.

(6) For each main propulsion engine and each prime mover of a generator—

(i) High lube-oil temperature; and

(ii) High jacket-water temperature.

(7) For each reduction gear and each turbocharger with a pressurized oil system—

(i) Low lube-oil pressure; and

(ii) High lube-oil temperature.

(8) Loss of normal power for the alarms listed in paragraphs (a)(1) through (a)(7) of this section.

(b) Sensors for the high-bilge-level alarm required by paragraph (a)(4) of this section must be installed in—

(1) Each space below the deepest load waterline that contains pumps, motors, or electrical equipment; and

(2) The compartment that contains the rudder post.

(c) Centralized displays must be installed in the machinery spaces to allow rapid evaluation of each problem detected by the alarms required by paragraph (a) of this section. Equipment-mounted gauges or meters are acceptable for this purpose, if they are grouped at a central site.

§ 130.470 Fire alarms.

(a) Each fire detector and control unit must be of a type specifically approved by the Commandant (G–MSE).

(b) No fire-alarm circuit for the engine room may contain a fire detector for any other space.

(c) The number and placement of fire detectors must be approved by the cognizant OCMI.

§ 130.480 Test procedure and operations manual.

(a) A procedure for tests to be conducted on automated equipment by the operator and the Coast Guard must be submitted to comply with § 127.110 of this subchapter.

(b) The procedure for tests must—

(1) Be in a sequential-checkoff format;

(2) Include the required alarms, controls, and communications; and

(3) Set forth details of the tests.

(c) Details of the tests must specify status of equipment, functions necessary to complete the tests, and expected results.

(d) No tests may simulate conditions by misadjustments, artificial signals, or improper wiring.

(e) A detailed operations manual that describes the operation and indicates the location of each system installed to comply with this part must be submitted to comply with §127.110 of this subchapter.

PART 131—OPERATIONS

Subpart A—Notice of Casualty and Records of Voyage

Sec.

Subpart B—Markings on Vessels

Subpart C—Preparations for Emergencies

Subpart D—Sufficiency and Supervision of Crew of Survival Craft

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Subpart I—Miscellaneous